
U. S. TREASURY DEPARTMENT

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The Public Health Program

Under Title VI of the

Social Security Act

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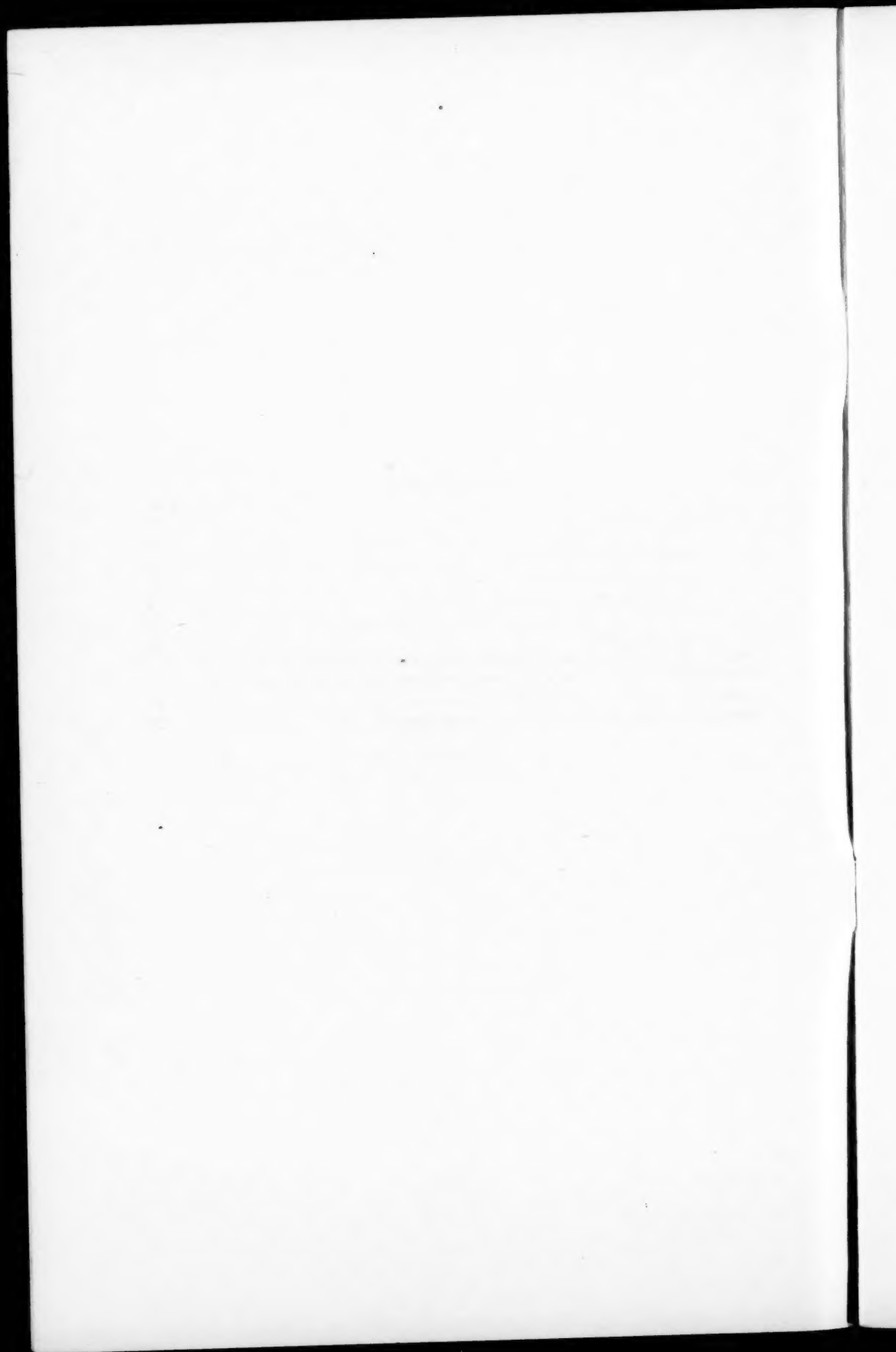
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THE PUBLIC HEALTH PROGRAM UNDER TITLE VI OF THE SOCIAL SECURITY ACT

When laws were enacted in 1890 and 1893, charging the Public Health Service with the duty of preventing the interstate spread of disease, the accepted method of prevention and control of disease was almost entirely limited to quarantine. Modern scientific knowledge, however, has evolved more rational and effective methods of control and placed the emphasis on prevention. The spread of communicable diseases from one State to another can best be prevented by eliminating local conditions under which such diseases arise. The responsibility, therefore, in the control and prevention of spread of disease is shared jointly by local, State, and Federal governments. This joint responsibility is not a new conception that has arisen with the passage of the Social Security Act; for a law passed in 1893 directed the Surgeon General of the Public Health Service to cooperate with and aid State and municipal health authorities in the enforcement of the health regulations of such authorities, and laws passed more than 100 years ago authorized Federal aid in the execution of State quarantine laws and health regulations. Not until the enactment of the Social Security Act, however, had there been adequate recognition by the Federal Government of its share of responsibility in health matters.

There is nothing untried or unproved in the procedures prescribed in the social security legislation for grants-in-aid to the States. For the past 19 years the Public Health Service has been actively engaged in cooperation with the States in the organization and maintenance of State and local health services. This cooperation has been conducted through technical assistance, the assignment of Service officers, on request from States, to duty within the States, and financial participation in State and local health budgets. More or less limited appropriations have been made by Congress for this purpose each year since 1917, when \$25,000 was provided for cooperation with the States in studies and demonstrations in rural health work.

It is most fortunate that the Public Health Service is fortified by long experience in cooperative health work with the States, and in like manner the States themselves have acquired knowledge and experience in cooperative public health procedure. It is only through such actual experience that thorough preparation for meeting the problems involved in the administration of the public health pro-

vision of the Social Security Act could be acquired. Both the Public Health Service and the States themselves are thus prepared to proceed most effectively from the start, without having to resort to the unnecessary motion and expense of experimentation through trial and error.

Under the provisions of Title VI of the Social Security Act authority is granted for—

1. An annual appropriation of not to exceed \$8,000,000 for the purpose of assisting States, counties, and health districts and other political subdivisions of the States in the establishment and maintenance of adequate health services, including the training of personnel for State and local health work.
2. An annual appropriation of not to exceed \$2,000,000 to the Public Health Service for research activities of the Service and for the expense of cooperation with the States in the administration of the Federal funds granted for aid in the establishment and maintenance of State and local health services.

I. GRANTS TO STATES

Purpose of Grants.

It is conceived to be the aim of Title VI of the act, among other purposes, to stimulate a comprehensive, Nation-wide program of public health, financially and technically aided by the Federal Government, but supported, so far as possible, and administered by the States and local communities. To this end the funds provided for allotment and payment to the States are available for—

(a) Strengthening State and Territorial health departments, or bureaus or divisions of such departments, and providing adequate facilities especially for promotion and administrative guidance of district, county, and city health services.

(b) Through the State and Territorial health departments, strengthening or aiding in the development of district, county, and city health services.

(c) The training of personnel employed, or to be employed, in State and local health departments.

With respect to general objectives of the program and plans for organization of the work to be carried out by the State and local health authorities with Federal aid, the Conference of State and Territorial Health Officers, at the annual meeting with the Surgeon General of the Public Health Service in June 1935, approved the following recommendations:

No State or Territory should be eligible for aid unless and until it shall have provided or provides in its proposed plan for certain essentials of health organization hereinafter set forth.

Grants-in-aid to existing State or local projects should be supplemental to funds now being expended and in no case should be used to replace existing State or local appropriations for such projects for the purpose of relieving State or local authorities from expenditures now being made.

Although it is recognized that many State and Territorial health departments conduct a number of important specialized activities, for the purpose of allocation of funds under this act no State or Territorial health department should be regarded as properly organized which does not provide as a minimum on a full-time basis the services listed below:

- a. A qualified full-time State or Territorial health officer.
- b. Adequate provision for the administrative guidance of local health services.
- c. An acceptable vital statistics service. This should include an approved plan for the registration of births and deaths and the prompt forwarding of information relative thereto to the Public Health Service.
- d. An acceptable State public health laboratory service.
- e. Adequate services for study, promotion, and supervision of maternal and child health.
- f. Special services for the study, promotion, and guidance of local activities for the control of preventable diseases and for health promotion. This should include an approved plan for the collection of reports of notifiable diseases and the prompt forwarding of information relative thereto to the Public Health Service.
- g. Services for study, promotion, and supervision of environmental sanitation.

The basis of a satisfactory local health service is a well-organized health department, adequately financed, with trained personnel, supported by suitable laws and ordinances, by favorable public opinion, and by all professional groups. To this end financial aid is to be granted, through the State and Territorial health departments, toward the development and maintenance of adequate city, county, and district health organizations.

Allotments of funds should be made toward the establishment or maintenance of city, county, or district health services only when the following basic principles of organization and services in a community are met:

1. The public health services of the city, county, or district shall be under the direction of a full-time health officer.
2. The personnel of the city, county, or district health department should include, in addition to the full-time health officer, such medical assistants, public health nurses, sanitation officers, and clerks as will insure at least a minimum of effective health service commensurate with the population and health problems of the area concerned.

The United States Public Health Service, in its allocation to States, should strive to foster the development of health units having a minimum personnel of one full-time health officer, two nurses, one sanitary officer, and one clerk. When a district health unit comprises more than one county or parts of counties there should be at least one public health nurse and one clerk for each county or similar political unit of government embraced in the health district. In areas whose economic status does not justify this desired minimum, the United States Public Health Service may feel free to modify these standards.

Personnel inclusive of health officers, nurses, sanitation officers, sanitary engineers, and other public health personnel employed under these grants-in-aid should meet the standards of qualifications established and recommended by the Conference of State and Territorial Health Officers.

The success of the Social Security Act in the field of public health will depend upon the availability and employment of competent and professionally trained personnel. It is therefore recommended that funds be allocated to the

States to assist in developing trained personnel for positions to be established for the extension of State, city, county, and district health organizations, and that minimum qualification standards for the necessary personnel be adopted by the Conference of State and Territorial Health Officers to serve as one of the conditions upon which the Federal funds provided in this act shall be allocated to the States for State and local health services.

As examples of specific purposes for which the Federal funds may be used by the State health authorities, the following may be mentioned:

(a) *State health departments:*

1. Addition of technical and administrative personnel.
2. Addition of special facilities for the control of syphilis, tuberculosis, cancer, malaria, and other diseases which may be regarded as special health problems.
3. Addition of divisions for the promotion of special activities in fields such as industrial hygiene, mental hygiene, public health nursing, public health education, and nutrition.
4. Addition of public health laboratory facilities.
5. Strengthening divisions of public health engineering in the promotion of environmental sanitation, including the supervision of water supplies, excreta disposal, sanitary control of milk production, and mosquito control.
6. Purchase of serums and vaccines for immunization and drugs for treatment of venereal diseases.
7. Purchase of other supplies and additional equipment.

(b) *The programs of local health departments which will be developed or aided through the use of Federal funds usually include the following activities:*

1. Communicable disease control, including home visits to cases, immunization, maintenance of diagnostic clinics for tuberculosis, and facilities for treatment of venereal diseases among the indigent.
2. Maternity service, including home visits to expectant mothers and the maintenance of maternity clinics for the poor.
3. Infant and preschool health service, including the maintenance of clinics for examination and advice on the care of infants.
4. School hygiene, including inspection and examination of school children, dental health work, and health education.
5. Diagnostic laboratory service for communicable diseases.
6. Environmental sanitation, including protection of water supplies, safeguarding excreta disposal, sanitary control of milk supplies, sanitation of food-handling establishments, and mosquito control.
7. Public health education, including home conferences, public lectures, newspaper articles, moving pictures, literature, exhibits, and instruction in schools.

The provision of medical care, other than that involved in immunization for the prevention of communicable diseases and the treatment of venereal diseases to render cases noninfectious, is not contemplated under the provisions of the act, nor is any provision

made for cash benefits to compensate individuals on account of illness or to provide medical services.

Methods of Administration.

The work to be done within the States under the public health title of the act is not to be performed directly by the Public Health Service, but is to be carried out by and administered under the supervision of the State and local health authorities, under the authority of State and local laws and regulations, in the same manner as the regular activities of such authorities have been performed heretofore. All funds paid to the States become State funds just as if they had been appropriated by the State legislatures. All persons employed on the work within the States and local communities are State or local employees, selected, appointed, and paid by the State or local authorities.

Allotments.—Responsibility for allotment of the annual appropriation for grants to the States is placed upon the Surgeon General of the Public Health Service. In making the allotments to the States, however, the Surgeon General must take into account certain major factors; namely, the relationship of the population of each State to the total population of the United States as a whole; the financial needs of certain States, or the inability of States to meet their health problems without financial assistance; and special health problems imposing unusual burdens upon certain States. The weighting and application of these factors in the distribution of the fund are left to the discretion of the Surgeon General, subject to the approval of the Secretary of the Treasury. It should be noted particularly that the allotments must be made to the States and that the Public Health Service cannot deal with local authorities either in the distribution of the fund or in the consideration of plans for the work. It is within the discretion of the State health authority to make such distribution of the Federal allotment as it may consider advisable. Communities interested in participating in the benefits of Federal aid therefore must present their applications and plans to the State health department.

The entire appropriation for aid to States each year must be allotted at the beginning of the Federal fiscal year. However, the fact that an allotment has been made to each State does not necessarily mean that each State actually receives the full amount of its allotment. The State allotment is in the nature of a "drawing account", from which the State may receive payments as it presents plans and budgets and meets other conditions with which it must comply before payments can be made. Once funds have been allotted and paid to any State, they must be expended solely for the establishment and maintenance of health services and in accordance

with plans presented by the health authority of such State and approved by the Surgeon General.

In the administration of the appropriation for aid to the States, it is the aim of the Public Health Service not to establish Federal jurisdiction over health work within the States, but to aid the States in the development and expansion of their own State and local health services, operated under State and local laws and regulations, to the end that the public shall continue to look to the State and local health authorities for protection and guidance in matters affecting the public health. It is likewise the aim of the Public Health Service to assist in the further development among the citizens of the several States a local sense of proprietorship with respect to their own State and local health organizations and a feeling of local responsibility for support of the work of these organizations. It has been the belief of the Public Health Service that these objectives can be attained most satisfactorily by strengthening the leadership of the State and local health authorities.

Plans.—The selection of activities to be carried on within each State has been left to the State health departments. Each State health officer has the privilege of originating such plans as he may consider best for conduct of the work in his State. While these plans must be submitted to the Surgeon General of the Public Health Service for approval before they become effective and before the payment of Federal funds may be made, it has been the policy of the Public Health Service to give its approval to any plan that is scientifically sound and which gives promise of an adequate return on the investment. The Public Health Service has particularly refrained from recommending a standard pattern of organization and administrative practice; on the other hand, it has encouraged the adoption of plans adapted to the particular needs of each State and has encouraged experimentation in different methods of administrative practice. It is believed that this policy will stimulate local initiative in the search for better methods of public health administration as the program moves along and avoid the "freezing" of organization and administrative practice in a standard pattern which would not readily permit readjustment to changing conditions and to future concepts of the public health problem.

Regulations governing payments to States.—Section 602 of Title VI of the Social Security Act provides that the amounts to be paid to the States from their allotments shall be determined in accordance with rules and regulations prescribed by the Surgeon General of the Public Health Service after consultation with a conference of the State and Territorial health authorities. In brief, the regulations prescribed for the current fiscal year require, as conditions

under which payments from allotments shall be made, the matching of certain portions of the allotments with State or local funds, the submission of general plans to be approved by the Surgeon General, the submission of itemized budgets showing in detail the purposes for which Federal, State, and local funds are to be expended, and the submission of quarterly reports on the expenditure of funds and the progress of the work. The regulations may be revised from year to year to meet changing conditions.

Payments to the States are made quarterly in advance, in accordance with budgets submitted by the State health officers to the Surgeon General and approved by him. At least 15 days prior to the beginning of each quarter the State health officer is expected to make his request for the quarterly payment. After the request has been determined to correspond with the approved budgets and the money available, certification for payment is made by the Public Health Service to the Treasury Department. The checks are issued by the Treasury Department and mailed to the State official legally empowered to act as custodian of the funds.

The Training of State and Local Public Health Personnel.

In the past the orderly development and maintenance of efficient State and local health organizations has been hampered in many instances by lack of adequately trained personnel and by the uncertainty of tenure of office for competent and experienced health department employees. There have been disturbing changes. In some instances, due to political expediency, competent workers have been unceremoniously dismissed, while incompetent individuals have been appointed or retained. Needless to say, such interference with personnel has created an impression that public health work is a semi-permanent activity of dubious value that may be turned off and on like a controlled stream of water. The time is now at hand for removing permanently the hindrance to an enlightened and progressive public health viewpoint. In no way can this be better done than by assuring undisturbed tenure of office for competent persons and sufficient training to insure efficient service. The most important single factor in the success of a public health program is the fitness of those to whom the administration of the program is entrusted. The belief may be expressed that when public health workers become proficient in their professions through proper academic and practical training, prolonged tenure of office will follow as a matter of course. The opportunity offered for the training of public health personnel, for which special provision was made in the Social Security Act, will undoubtedly aid in attaining these objectives.

While the first essential of fitness is personal aptitude and adaptability, public health work is a specialty requiring technical personnel with special training in the several fields of public health administration. A physician may be among the best in his community as a practitioner of medicine, but totally unfitted as an administrator of public health activities unless he has had special training in modern public health practice. This applies with equal force to the public health nurse, the public health engineer, and other employees whose duties are of a technical nature.

Portions of the allotments to the States have been set aside especially for the training of State and local public health personnel. These funds may be used by the State health departments for paying tuition fees for instruction and for subsistence stipends for such personnel while in training. The individuals selected for special training are chosen by the State health authorities. As a rule the selection is limited to persons already employed on health department staffs or to individuals specially chosen to fill existing or anticipated vacancies.

To meet the urgent need for trained personnel in the organization of new work made possible in the States under the provisions of the act, it became necessary to consider the establishment of additional facilities for short, intensive courses of instruction for health officers, nurses, and other personnel, to serve at least until the present emergency has passed. Certain schools to be used as regional training centers for giving short courses were designated by majority vote of the State health officers in the territory to be served. In the selection of these schools, special consideration was given to those having already a nucleus of facilities for public health instruction upon which to build. The additional amount necessary to equip the school to give the desired short courses has been, in each instance, set forth in budget form and included among the budgets of the State in which the school is located.

It is highly desirable that all public health workers eventually receive at least 1 full year of special training, and 1-year fellowships have been provided in most of the States for certain specially selected individuals in key positions. The short courses as now constituted are based on either one semester or one trimester of intramural instruction. It is intended that those who take these initial courses shall return later for completion of the year's work.

It should be specially noted that, although the training centers have been selected by the State health officers through the exercise of group choice, no State health officer is obligated to send trainees to any specific training center. The State health officer is at liberty to send trainees wherever he thinks the most satisfactory training will be received.

Qualifications Recommended for Health Officers and Other Public Health Personnel.

The State and Territorial health officers, at their conference with the Surgeon General in 1935, recommended a schedule of standard qualification requirements to be met by persons employed in public health work. These requirements are recognized by the Public Health Service as legitimate standards and are recommended as criteria of fitness for all new employees in public health work. (The details regarding the qualifications are presented in Appendix A.)

II. CONSULTATION SERVICE ON ORGANIZATION AND ADMINISTRATION

For the purpose of giving additional aid to the State health departments in the form of consultation on problems of organization and administration, the Public Health Service maintains at convenient locations regional offices to serve States in groups. Such offices have been established in Washington, New York, New Orleans, Chicago, and San Francisco. Upon request of the State health authorities, there are medical officers, nurses, and engineers experienced in public health administrative methods available to assist in the preparation of plans and budgets and to give advice on problems which arise in connection with the technical aspects of public health measures. In addition to the consultants available at the regional offices, the Public Health Service also has on its staff in Washington and in the field other officers prepared to give special advisory service in particular fields, such as venereal disease control, industrial hygiene, mental hygiene, dental hygiene, health education, nutrition, milk sanitation, malaria control, bubonic plague eradication, sanitation of water supplies, and excreta disposal. Medical officers specially trained in the control of communicable diseases such as poliomyelitis, typhoid fever, and diphtheria are available to assist, when requested by the State health authorities, with the investigation and suppression of epidemics.

Another important service available to States and local communities consists in the making of special surveys of State and local health organizations, with a view to the appraisal of existing facilities and practices and the recommending of improvements which may be indicated. Requests for local surveys of this kind are made through the State health authorities.

Occasionally the Public Health Service goes even further in assisting with the reorganization of State and local health services, by lending officers temporarily to act as State health commissioners, directors of divisions in State health departments, or as resident advisors, until the reorganization has been completed. Officers of the

Public Health Service have served temporarily as State health officers in Massachusetts, New York, Virginia, New Mexico, Colorado, and Washington, and as city health officers in Chicago, Ill., New York, N. Y., and El Paso, Tex.

Further contact is maintained with the State health authorities through the Annual Conference of the State and Territorial Health Officers with the Surgeon General of the Public Health Service in Washington, where particular problems of Nation-wide importance may be discussed and concerted action may be taken with respect to measures directed toward preventing the interstate spread of disease. In the intervals between the national meetings, regional conferences of State health officers are held at convenient times and locations, for the purpose of discussing problems more or less peculiar to certain groups of States.

III. RESEARCH ACTIVITIES

Under the provisions of that part of the Social Security Act (sec. 603 (a)) relating to investigations of diseases and sanitation, studies are carried out mainly under the Division of Scientific Research in laboratory and field work relating to every major branch of public health.

The program of research conducted at the National Institute of Health falls under the following four major divisions:

1. *Division of Pathology and Bacteriology*.—Approximately twenty-three major studies are conducted in this Division, besides many minor routine investigations. The major fields of research relate to studies of meningitis, tularaemia, undulant fever, staphylococcus and streptococcus infections, diarrheal diseases of the Southwest, bacterial dissociation, the virus infections especially related to endemic diseases and to the typhus-Rocky Mountain spotted fever group, amoebic dysentery, trypanosomiasis, studies in immunity, mycotic diseases, serological testing, sugar tolerance in malignancy, frequency of cardiovascular syphilis in different groups of Service patients, investigation of pathology of lymphogranuloma inguinale, investigation of new methods of pathological technique, studies in nutrition, and research activities relating to the control of biological products.

2. *Division of Pharmacology*.—The present work of this Division relates to (a) studies of the biochemical factors concerned in growth of neoplasms, including fundamental research on chemistry of cell growth and cell division; (b) studies on chronic intoxications, especially those related to selenium poisoning in certain large areas of the United States; (c) chemotherapy of infectious diseases, with particular reference to pneumococcus infection.

3. *Division of Chemistry*.—(a) Research on methods of analysis,

including a major project relating to the control of fluoride in drink-water supplies by chemical methods; (b) enzyme researches; (c) researches in the chemistry and biochemistry of the sugars; (d) microchemical analysis.

4. *Division of Zoology*.—This Division was reorganized with funds made available by the Social Security Act. Two major problems are in progress of investigation: (a) Trichinosis, which includes a comprehensive study from zoological and medical points of view, and (b) oxyuriasis, the study of which is planned similarly to that for trichinosis.

Cancer.—The systematic program of research relating to the cause and prevention of cancer has been developed in four basic studies: (1) Biophysical studies, including (a) biological effects of radon, (b) biological effects of X-rays, (c) spectroscopic study of carcinogenic compounds, and (d) homogeneous high intensity beams in the ultra-violet; (2) biological studies, which are basically concerned with the general problem of resistance and susceptibility to malignant growths; (3) biochemical studies, relating to (a) the microchemistry of tumor cells, (b) bacterial products affecting tumor growth, (c) chemotherapeutic studies, and (d) investigations of carcinogenic compounds; (4) cytological studies, relating to (a) the propagation and maintenance of pure strains of normal and of tumor cells, and (b) a study of the possibilities of converting normal into malignant cells *in vitro*.

Child hygiene.—Studies in child hygiene relate in general to (1) the causes of abnormal maternal conditions which either affect the health of the mother or indirectly influence the health of her child, and (2) the determination of the physiological basis of the health of children and the study of those conditions which cause deviation from this normal.

The work can be divided into three groups of studies: (1) The completion of the studies relating to vision, nutritional indexes, and to hearing; (2) the continuance of (a) field studies in relation to the growth and health of Hagerstown children, (b) the study of current obstetric practice in Michigan, (c) the study of the normal progress of auditory physiology and significance of certain minor abnormalities and the presence of signs of incipient deafness; (3) new investigations relating to (a) study of acute rheumatic fever in children in cooperation with the children's heart-disease clinic of Johns Hopkins Hospital, (b) study of allergy in children, and (c) a biological study of effect on growth and development of injection of thymus extract.

Cooperative studies.—Cooperative studies with other research institutions include (1) Tuberculosis control among Indians and Negroes (Henry Phipps Institute); (2) the identification of new vitamins

(Johns Hopkins University); (3) diphtheria immunization (American Public Health Association); (4) serums from human sources (University of Pennsylvania); (5) clinical researches in respiratory diseases (Germantown Dispensary and Hospital); (6) cancer (Johns Hopkins University); (7) endocrinology (Johns Hopkins University); (8) phagocytosis of tubercle bacilli (George Washington University); and (9) research in dentistry for children (University of Indiana Dental School and Hospital).

Dermatoses investigations.—These investigations relate to (1) the investigation and study of outbreaks of dermatitis in factories and their relationship to industrial hazards; (2) investigation and study of outbreaks of dermatitis among users of manufactured products due to contact with such products; and (3) chemical and biochemical studies as to the causes of industrial skin diseases and other forms of contact dermatitis.

Epidemiology.—These investigations relate to continued epidemiological observations of poliomyelitis. The major item of study will be the testing out of the chemical prophylaxis of human poliomyelitis, which was developed by Service officers. Additional studies will be related to the differentiation of possible changes in poliomyelitis as related to epidemiology and clinical types.

Heart disease.—Heart disease investigations fall into two general fields: (1) Clinical and laboratory studies relating to (a) clinical observation and recording of cases of rheumatic fever and rheumatic carditis, (b) laboratory tests on materials obtained from patients to determine whether there is any specific and consistent relation between rheumatic fever and the various streptococci, (c) study of pathological materials obtained from biopsy and necropsy, (d) studies of the peroxidase activity of the blood; and (2) an attempt to induce rheumatic or similar lesions in experimental animals.

Industrial hygiene.—The aims of all investigations in this field are (1) the recognition of industrial hazards, extent to which they occur, and nature and type of disability they cause; and (2) the development of methods of control of such hazards.

These investigations are divided into laboratory studies and field investigations. The laboratory studies include: (a) Studies of dust instruments, (b) spectroscopic studies (c) studies of halogenated hydrocarbon, (d) dust studies to determine the physical and chemical properties of various industrial dusts and their effects upon body tissues, (e) studies of carbon monoxide and hydrocyanic acid, (f) organic solvents to determine toxicity, physiological response and pathology of animals and persons exposed to various organic solvents commonly used in industry, and to establish maximum limits of safe atmospheric concentrations, (g) study of the toxicity of vapors and dust of selenium, and (h) study of optimum illumina-

tion. The field investigations include: (a) Lead poisoning in the storage battery industry, (b) studies of silicate minerals relating to the investigation of the type of pneumoconiosis produced by inhalation of such silicate dusts as mica, feldspar, and asbestos, and to determine threshold limits, (c) silicosis—study of silicosis and tuberculosis to determine the progress of the disease over a 10-year period among persons previously examined, (d) study of industrial morbidity and mortality statistics, and (e) industrial hygiene organization and training in State departments of health and the promotion of studies in industry.

Leprosy.—Research in leprosy, which is carried on in Honolulu, falls into three groups: (1) The pathogenesis of human leprosy and of rat leprosy, mainly directed toward increasing scientific knowledge of this disease and of its numerous manifestations which may lead to information which might aid in prevention and treatment; (2) bacteriology of human leprosy and of rat leprosy; and (3) the epidemiology of leprosy.

Malaria.—The primary object in malaria research is to devise improved methods for controlling malaria, and is approached from three separate angles: (1) The prevention of production of *Anopheles* mosquitoes; (2) measures applicable to malarious population; and (3) treatment which will cure the malarial victim.

The malaria investigations include (1) an epidemiological study of the ebb and flow of malaria in the United States; (2) the construction of over 50,000 miles of anti-mosquito ditches in the United States; (3) improvement of methods for the producing and shipping of infectious malaria material for the inoculation of paretics; (4) the description and classification of the *Anopheles* of the Caribbean and Canal Zone and the determination of the mosquitoes responsible for the spread of jungle yellow fever; (5) studies of possible ovicides in the control of mosquitoes; and (6) studies of the possibility of utilizing inexpensive biological methods in the control of malaria.

Milk.—The research projects in milk sanitation are all related to an attempt to reduce the amount of milk-borne diseases. The studies being carried on relate, therefore, to (1) pasteurization and heat disinfection temperature and time requirements; (2) chemical treatment of milk equipment, relating especially to the use of chlorine and chlorine compounds in sterilizing milk containers and equipment; (3) tests of recent pasteurization equipment in order to assure State and city health authorities as to the efficiency of pasteurization equipment being used in their jurisdiction; (4) municipal milk control survey relating to the present milk control work being carried on in American cities; and (5) advisory assistance to State health departments in development of milk control programs.

Public health methods.—Investigations of public health methods relate primarily to studies of the efficacy of public health administrative procedures of State and local health authorities and the relationship of the economic problems of medical services to health department practices. The major study is the analysis of county health department practices, including (a) effectiveness of school health programs in rural areas, and (b) value of sanitary privy in control of soil pollution of rural areas.

Spotted fever.—For the first time funds have been made available for studies concerning the possibility of preparing a spotted fever vaccine by some simpler, less tedious, and less expensive process than the use of tissues of infected ticks.

Statistics.—The major items in these investigations relate to (1) the incidence of communicable diseases, completeness of reporting to health departments, attack rates among those exposed to the disease, and similar general studies; (2) the prevalence of illness in typical urban and rural communities; (3) influenza and respiratory diseases in connection with continued studies which have been carried on by the Public Health Service since 1920 as to the trends of major and minor epidemics of these diseases; (4) studies of extent and causes of morbidity in the general population; and (5) Negro mortality in the United States.

Tuberculosis.—Epidemiological studies of tuberculosis are for the purpose of determining the salient differences between sections of the United States in which there exist high and low tuberculosis rates. These studies will include investigation of all factors which might have a bearing upon these widely different rates.

Clinical research.—The following studies are a continuation of certain research that is being pursued under the direction of the Hospital Division:

1. Study in pyretotherapy, designed to determine the changes occurring in the human body, especially in body metabolism, which result from artificially induced fever used as a curative measure. The study will be conducted at the Marine Hospital at New Orleans, La. During the current year it will be rather limited and will be directed especially toward a determination of the thermal death time of the gonococcus in gonorrheal patients.

Study of chronic arthritis, which is being conducted at the Marine Hospital at Baltimore, Md., consists of an effort to determine the mobilizing power for calcium of vitamin D, and the result and value of such mobilization in long-standing cases of arthritis.

3. Study of focal infections as related to systemic diseases consists of an attempt to determine the specificity of certain organisms for producing specific disorders in parts of the human body other than at the site of the focal infection. This research is being conducted

at the Marine Hospital at Baltimore, Md., and was begun in April 1936.

4. Study of the bacteriology of leprosy contemplates a continuation of the study of the morphology and characteristics of the lepra bacillus.

Mental hygiene.—The following investigations are to be conducted under the division of mental hygiene:

1. Studies on the applicability of psychiatric service in Federal court procedure are being organized at the present time, and it is anticipated that approximately 15 Federal courts will be granted this service. At least 12 months' experience is considered necessary before attempting to determine the desirability of recommending the continuance of such an activity as a permanent function of the Public Health Service.

2. Studies of the adequacy of measures for meeting the problems of the mentally ill (cooperative) are concerned with a national survey of public mental hospital services in the United States in cooperation with other medical agencies concerned with meeting the needs of the mentally ill; with securing greater equality in the distribution of facilities; with standardization and uniformity in policies; with postgraduate training of personnel; and with the prevention of mental illness.

It is apparent that a national health agency must take cognizance of the need for greater uniformity and a more equal distribution of those measures and facilities that are concerned with the recognition and with early and adequate treatment of mentally ill persons, because of their intimate relationship to the prevention of such diseases. It is evident, also, that an agency like the United States Public Health Service must eventually assume a more permanent active role in this particular field by serving as a depository for the collection and dissemination of information on matters pertaining to mental health administration; by making studies and investigations of the prevalence and needs of the mentally ill, and by making available to the States and political subdivisions thereof a consultant service to the end that more nearly adequate and equally distributed facilities may be provided and that more uniform measures and public policies may be adopted for the early recognition and treatment of mental ill health.

3. Studies on methods or measures for uprooting community sources of mental invalidism: In the original plan for this work it was considered desirable for it to extend at least over a period of 3 years. It includes studies on the practicability of integrating the present knowledge of mental hygiene into regularly constituted health agencies, with special reference to those measures and policies

that are to be recognized for uprooting community sources of mental disease and defect.

4. Studies of addiction liability of narcotic drugs, with special reference to Indian hemp, relate to the addiction liability of certain narcotic drugs in lower animals, with special reference to potency of various types of cultivated Indian hemp, and the accuracy of present assay methods, and are conducted through a grant-in-aid for supplies to the Department of Pharmacology of Western Reserve University.

Health education.—The Division of Sanitary Reports and Statistics, through the Office of Health Education, is engaged in research by which it is hoped to learn the most effective means of imparting information relative to disease prevention and health maintenance. In pursuit of this objective it is necessary to have qualified employees who can present written information in readily assimilable and attractive form. It is also desirable that radio broadcasts be prepared in dramatic form. Authoritative information can often be presented to large lay and professional groups through exhibits that hold the eye because of color, motion, unique construction, and general attractiveness. For such work artists, draftsmen, and model workers are essential. The equipment and supplies for an educational art shop manifestly will require a considerable initial outlay. The acquiring of apparatus for projecting and displaying educational material and the preparation of the electrical transcriptions and strip films will likewise be costly in the beginning.

With qualified writers and artists it is desired to improve the appearance and quality of all publications issued by the Public Health Service.

An important phase of the educational work is the application of increasingly intelligent efforts in behalf of its own medical officers. The publication of "The Health Officer" is a forward-looking step in this direction, but additional efforts are required.

The presentation of information to lay and professional groups through the medium of "institutes" should prove very useful. This effort should be continued for the purpose of learning whether this or some other method is preferable. An obviously timely opportunity exists for fruitful research into methods of imparting health information.

The significance of the need for broadening the scope and outlook for public health measures may be better appreciated when it is realized that the future and security of a nation depend to a great extent upon the health of its citizens. This cannot be left wholly to individual endeavor, since measures and policies must be adopted eventually for more closely integrating individual medical service with services concerned with the prevention of disease and ill health.

APPENDIX A

Qualifications Recommended by the Conference of State and Territorial Health Officers for Health Officers and Other Public Health Personnel

The following provisional and temporary standards are recommended for medical officers, public health engineers, nurses, sanitarians, and sanitary officers as qualifications for public health service:

Health Officers.

I. Basic educational requirements shall be—

A. The degree of doctor of medicine from a reputable medical school and eligibility to examination for medical licensure in the State where service is to be rendered.

B. Not less than 1 year of clinical experience gained preferably in a hospital of acceptable standards. Preference shall be given to candidates whose clinical experience includes 3 months' hospital work in pediatrics and a similar period of experience in infectious diseases.

II. Special qualifications:

A. Pending the development of a reserve of personnel having graduate training in public health work the following minimum qualifications shall apply as a standard in the selection of medical officers of health for jurisdictions of less than 50,000:

1. Candidates for appointment shall be not more than 35 years of age when first specializing in public health work. Preference shall be given to candidates having had 1 or more years' experience in the general practice of medicine.

2. Personnel selected shall already have had or shall agree to take before assuming duty not less than 3 months of special training in public health, of which not less than 2 months shall be organized instruction in an approved academic institution and 1 month in field apprenticeship in an approved local health organization.

B. For health officers of jurisdictions having populations of more than 50,000, for staff positions with State health departments, and for positions having the responsibility of supervisory and consultant service the following standard of qualifications shall apply:

1. Not less than 1 year in residence at a recognized university school of public health and the satisfactory completion of a course of study in the fundamental subjects in preventive medicine:

(a) Such knowledge of biostatistics as will give the individual a sound conception of the mass phenomena of disease, familiarity with the methods of collecting, recording, and studying statistics on vital phenomena, and ability to interpret the results of the analysis of such material.

(b) Some knowledge of general or theoretical epidemiology and training in the collection, recording, analysis, and interpretation of epidemiological information regarding the commoner diseases, including occupational diseases and industrial hazards.

(c) Familiarity with the general historical background of health administration, a general knowledge of the forms and methods of operation of

health departments of the National Government and of the States and local units, and acquaintance with the standard procedures of health administration.

(d) Sufficient knowledge of public health bacteriology and immunology to permit the performance personally of the simple diagnostic procedures, the interpretation of laboratory reports, and familiarity with the general methods of administration and operation of public health laboratories.

(e) General knowledge of the usual methods of water purification and sewage disposal, sufficient to enable the individual intelligently to advise the local authorities in securing engineering advice and in undertaking new procedures.

(f) Familiarity with the dangers from, and the general methods of securing protection against, diseases transmitted by foods.

(g) Sufficient familiarity with the clinical aspects of the commoner communicable diseases to serve as a basis for developing skill in differential diagnosis and advising as to treatment; complete and accurate knowledge of the possibilities, limitations, and practical methods of immunization against communicable diseases.

(h) Sufficient knowledge of the epidemiology and clinical aspects of tuberculosis to enable the individual to plan and administer methods of prevention.

(i) Sufficient knowledge of the epidemiologic, clinical, and social aspects of venereal disease to enable the individual intelligently to plan and administer preventive procedures.

(j) Familiarity with the principles of nutrition. A knowledge of basic food requirements, not only those that are necessary to life, but those which represent optimum conditions for production of the greater vigor and stamina and sufficient knowledge to recognize actual clinical entities that may be produced by a faulty dietary.

(k) Sufficient familiarity with the clinical aspects of the common occupational diseases to serve as a basis for developing skill in differential diagnosis and advising as to treatment, and accurate knowledge of the possibilities, limitations, and practical methods of control of occupational diseases.

2. Not less than 6 weeks of field experience under proper supervision in a suitable health organization.

III. Exceptions to the foregoing standards for medical officers may be made only when candidates for positions have, through experience and practical training, proved ability to perform successfully the duties of the position for which application is made.

IV. Standards for health officers of jurisdictions having less than 50,000 population shall be progressively advanced as rapidly as training facilities become sufficiently well developed and adequate reserves of trained personnel are established. It is doubtful that the time is near at hand when a year's resident training in a recognized university school of public health may be required of students for positions in the smaller health jurisdictions, but progressive improvement of personnel training may be secured through graduate training subsequent to employment, as well as by increase of personnel. Preference should be given to medical officers meeting the higher standard of qualifications outlined under section II.

Public Health Nurses.

I. Staff positions:

1. For the nurse on a staff providing well qualified nurse supervision:

A. At least a high school graduation or its educational equivalent as determined by State Department of Education.

B. Fundamental nursing education; namely, graduation from an accredited school for nurses connected with a general hospital having a daily average of 50 patients or more. The curriculum must include

practical experience in caring for men, women, and children, together with theoretical and practical instruction in medical, surgical, obstetrical, and pediatric, and communicable disease nursing. Such experience may be secured in one or more hospitals.

Preference must be given the public health nurse who has had training in communicable diseases (including tuberculosis and venereal diseases); mental diseases and mental hygiene; and such specialties as diseases of the eye, ear, nose, and throat; experience in out-patient clinics. This training may be given in the school, as an affiliation with another school of nursing, or as a post-graduate course.

Two months' field training with some well-organized community health agency shall be prerequisite for employment. For those nurses not meeting the educational and professional requirements of the foregoing outline, occasional exceptions may be made if professional training or experience has developed a wisdom and judgment which is of equal value in the public health nursing field.

C. State Registration.

2. For the nurse working without well-qualified nurse supervision:

A, B, and C as above.

D. In addition it is desirable that she shall have had—

1. At least 6 weeks' instruction in public health nursing, preferably in one of the recognized public health nursing courses, and 1 year's experience under adequate supervision; or

2. Two years' experience under adequate supervision; or

3. A public health nursing course which meets accredited standards.

Occasional exceptions may be made for those not meeting this academic and fundamental nursing standard, but such nurses must have proved their ability before being appointed for positions where they work alone and must meet requirement D.

It is of primary importance that every public health nurse have suitable personal qualifications.

II. Supervisors:

It is expected that those appointed to positions of supervisory rank have the equivalent of the educational and professional background described as a standard for the staff nurse under section I, paragraph 7, items A, B, and C.

The following additional qualifications shall be required:

D. At least 1 year's supervised experience in a well-organized public health nursing agency.

E. A public health nursing course which meets accepted standards.

For those nurses not meeting the educational and professional requirements of this outline, occasional exceptions may be made if professional training or experience has developed a wisdom and judgment which is of equal value in the public health nursing field.

In making promotions and new appointments to supervisory positions, preference must be given to those with certain personal qualifications which, though difficult to measure, are vital to her work, such as special technical skill in the field she supervises, ability to impart information, to win confidence of staff, and to inspire voluntary requests for help; ability to delegate work with a fair balance in responsibilities assigned, and to stimulate initiative on the part of the staff; ability to correlate work with that of other agencies in related health and social fields; breadth of vision covering both the aims of her profession and the work of her organization in relation to a unified community health program, with the initiative and imagination for developing new work.

Public Health Engineers.**I. Basic educational requirements shall be:**

A. A degree in engineering from a reputable university or technical school and eligibility to the examination as professional engineer in the State where service is to be rendered. In obtaining the degree, courses in sanitary engineering and basic courses in personal hygiene should be included.

B. Not less than 1 year of experience in some line of sanitary or public health engineering under qualified supervision.

II. Special qualifications for staff position in State or city health departments and for position having responsibility of supervisory and consulting service the following standard or qualification shall apply:

1. Not less than 1 year, and preferably 2 years, in residence at a recognized university or technical school of public health in which the following shall have been the main educational training:

(a) Education in biostatistics sufficient to give the individual a sound conception of the mass phenomena of disease, familiarity with methods of collecting, recording, and studying statistics on vital phenomena, and ability to interpret the results of the analysis of such material.

(b) Knowledge of general or theoretical epidemiology and training in the collection, recording, analysis and interpretation of epidemiological information regarding those diseases toward the prevention and control of which the public health engineer would be expected to contribute.

(c) Studies and field experience leading to a familiarity with the general historical background of health administration, a general knowledge of the forms and methods of operation of health departments of the National Government, and of the States and local units, public health education and publicity, and acquaintance with standard procedures of health administration.

(d) Fundamentals of common law.

(e) Education in sanitary bacteriology, chemistry, and planktology, and instruction in the interpretation of laboratory reports and methods of administration and operation of laboratories in connection with public health work.

(f) Instruction in food technology, with particular reference to production and pasteurization of milk, and familiarity with methods of protection against such diseases as may be transmitted by foods.

(g) Instruction in entomology as it applies to those insects which may be vectors in disease transmission and in methods of insect control.

(h) Instruction in housing, with respect to health.

(i) Instruction in heating, lighting, air-conditioning, and ventilation sufficient to give the individual some knowledge of these subjects.

(j) Instruction in industrial sanitation, particularly with reference to hazards the correction of which is largely an engineering problem.

(k) Instruction in the special sanitary problems of rural and recreational areas.

III. Occasional exceptions to the foregoing standards for public health engineers may be made only when the candidates for positions have, through experience and particular training, proved ability to perform successfully the duties of the position for which application is made.**IV. Standards for public health engineers for jurisdictions having less than 50,000 population shall be progressively advanced as rapidly as training facilities become sufficiently well developed and adequate reserves of trained personnel are established.**

It is doubtful that the time is near at hand when a year or more resident training in a recognized school of public health may be required of students for positions in the smaller health jurisdictions, but progressive improvement of personnel training may be secured through graduate training subsequent to em-

ployment, as well as by increase of personnel. Preference should be given to public health engineers meeting the highest standard of qualifications outlined under section II.

Sanitarians and Sanitary Officers.

I. Sanitarians having consultant and (or) special service responsibilities:

1. The designation shall be "Sanitarian" with such prefix as the training in a particular branch of public health work would indicate.

2. The educational requirements shall be a bachelor's degree from a recognized educational institution (of learning), followed by at least 1 year's course, or its equivalent, in certain subjects necessary for one entering the public health field.

The educational requirements shall include as basic training common to all classes of sanitarians:

(a) Education in biostatistics and general epidemiology, particularly in methods of collecting, recording, and interpreting information regarding diseases toward the prevention and control of which the sanitarian is expected to contribute.

(b) Sufficient instruction in public health administration to provide a general knowledge of the forms and methods of health department practice.

To such basic training there shall be added specialized training in one or more of the following classes of sanitation service:

(a) General sanitation, including nuisances, water supply, sewage disposal, rural and recreational sanitation, mosquito control, and rat control; or

(b) Sanitary control of milk and foods, including methods of protection against such diseases as may be transmitted by foods, and laboratory procedures; or

(c) Control of environment, to include housing and plumbing with respect to health, heating, lighting, air conditioning, and ventilation sufficient to give some knowledge of the subjects, and courses in industrial sanitation.

II. Sanitary officers serving on the staff of local health organizations where good supervision is available through medical or engineering officers:

1. The designation shall be "Sanitary Officer."

2. Educational requirements shall be not less than graduation from high school.

3. At least 1 year of experience in some line of work that has brought the individual in contact with the general public shall be required.

4. Not less than 12 weeks of special training in sanitation work through organized courses of instruction which meet recognized standards shall be required.

5. Individuals not having had organized instruction which meets recognized standards, or experience in health and sanitation work by means of which satisfactory ability has been demonstrated, shall not have exceeded 35 years of age at the time of first employment.

Health organizations employing personnel under the terms of the foregoing qualifications shall require any individual so employed to supplement his training as soon as practicable through education in public health work by courses equivalent to not less than a 2-year college course.

Preference in initial employment of personnel shall be given to individuals having college training, especially in biological and engineering subjects.

APPENDIX B

Text of Title VI of the Social Security Act Relating to Public Health Work

TITLE VI. PUBLIC HEALTH WORK

APPROPRIATION

SECTION 601. For the purpose of assisting States, counties, health districts, and other political subdivisions of the States in establishing and maintaining adequate public health services, including the training of personnel for State and local health work, there is hereby authorized to be appropriated for each fiscal year, beginning with the fiscal year ending June 30, 1936, the sum of \$8,000,000 to be used as hereinafter provided.

STATE AND LOCAL PUBLIC HEALTH SERVICES

SEC. 602. (a) The Surgeon General of the Public Health Service, with the approval of the Secretary of the Treasury, shall, at the beginning of each fiscal year, allot to the States the total of (1) the amount appropriated for such year pursuant to section 601; and (2) the amounts of the allotments under this section for the preceding fiscal year remaining unpaid to the States at the end of such fiscal year. The amounts of such allotments shall be determined on the basis of (1) the population; (2) the special health problems; and (3) the financial needs; of the respective States. Upon making such allotments the Surgeon General of the Public Health Service shall certify the amounts thereof to the Secretary of the Treasury.

(b) The amount of an allotment to any State under subsection (a) for any fiscal year, remaining unpaid at the end of such fiscal year, shall be available for allotment to States under subsection (a) for the succeeding fiscal year, in addition to the amount appropriated for such year.

(c) Prior to the beginning of each quarter of the fiscal year, the Surgeon General of the Public Health Service shall, with the approval of the Secretary of the Treasury, determine in accordance with rules and regulations *previously* prescribed by such Surgeon General after consultation with a conference of the State and Territorial health authorities the amount to be paid to each State for such quarter from the allotment to such State, and shall certify the amount so determined to the Secretary of the Treasury. Upon receipt of such certification, the Secretary of the Treasury shall, through the Division of Disbursement of the Treasury Department and prior to audit or settlement by the General Accounting Office, pay in accordance with such certification.

(d) The moneys so paid to any State shall be expended solely in carrying out the purposes specified in section 601, and in accordance with plans presented by the health authority of such State and approved by the Surgeon General of the Public Health Service.

INVESTIGATIONS

SEC. 603. (a) There is hereby authorized to be appropriated for each fiscal year, beginning with the fiscal year ending June 30, 1936, the sum of

\$2,000,000 for expenditure by the Public Health Service for investigation of disease and problems of sanitation (including the printing and binding of the findings of such investigations), and for the pay and allowances and traveling expenses of personnel of the Public Health Service, including commissioned officers, engaged in such investigations or detailed to cooperate with the health authorities of any State in carrying out the purposes specified in section 601: *Provided*, That no personnel of the Public Health Service shall be detailed to cooperate with the health authorities of any State except at the request of the proper authorities of such State.

(b) The personnel of the Public Health Service paid from any appropriation not made pursuant to subsection (a) may be detailed to assist in carrying out the purposes of this title. The appropriation from which they are paid shall be reimbursed from the appropriation made pursuant to subsection (a) to the extent of their salaries and allowances for services performed while so detailed.

(c) The Secretary of the Treasury shall include in his annual report to Congress a full account of the administration of this title.

